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ABSTRACT

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Computer Literacy Empowerment Strategies in a Social Context: A Sample Approach to Teaching a Credit Course

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Abstract

This paper describes a model course that places the intersection of information literacy and critical thinking within the conceptual framework of how information technology impacts cultural, political, economic, and social systems in American society. Stepping beyond the boundaries of traditional library instruction, this model course also attempts to critically construct meaning based on diverse perspectives and experiences as well as build a bridge of relevancy between the abstractions of what it means to be information literate and the individual's ability to participate in an information society. In so doing, the curriculum is transformed from an active learning strategy incorporating critical thinking competencies and student-centered learning to an empowerment learning strategy embracing a model of relevancy-centered critical thinking and an emphasis on the student-teacher relationship as the catalyst for knowledge acquisition.

Introduction

The term literacy had traditionally referred to the ability to read in any language. It is a concept rooted in the early 17th century when all accumulated knowledge could be stored in one location. Reading knowledge of Greek and Latin was the only tool needed to access the entire body of human knowledge. As we enter the 21st century, this point in history seems so distant as to be more contemporary myth than past reality. Growth in knowledge is now exponential. In a speech at California State University, Long Beach on August 28, 1992, James B. Appleberry made the astonishing prediction that the entire body of knowledge will double every seventy-three days by the year 2020.[1]

Emerging technologies have accelerated this process not only by creating new knowledge that analyzes the impact of information technology on society, but more importantly, by making that and many other types of knowledge accessible. The most recognized element of the Information Age, the Internet, has been particularly effective in providing access to both old and new knowledge and making that knowledge accessible to a significant and constantly growing number of people. Estimates place the number of Internet users in 1996 at 49 million. By the year 2000, it is expected to quadruple to approximately 193 million users.[2] In addition, the breaking down of barriers to accessing information will no doubt become the launching point for additional information production. The ability of users to add new information to the Internet makes it unique in that it is not only a window into humanity's collective body of knowledge, but facilitates the dissemination of new information by anyone connected to the network. Unlike other electronic formats, such as a compact disks, data files, or online search services, the Internet is a participatory instrument that facilitates interactive communication. To view it another way, emerging technologies have transformed the 17th century need to understand Greek and Latin into the ability to manipulate a mouse on the World Wide Web and write HTML.

With the possible exception of the government, and more recently private enterprise, no other social institution in American society has been impacted more directly by the emergence of new technologies than education. At all levels, from elementary school to the research university, educators are reviewing traditional models of teaching and learning to integrate information technologies into the curriculum. In response to this movement, a growing body of

literature devoted to examining the intersection of student learning and information technology has developed. A majority of this scholarship falls within one of four analytical frameworks: 1) the case study approach that describes, in varying detail, how a school or college has created and implemented a new technology-based curriculum; 2) the theoretical analysis of virtual learning and its implications related to knowledge acquisition and pedagogy; 3) descriptions of what works and what doesn't about specific curricular models developed for use in the electronic classroom; and 4) the discipline-based exploration that examines the relationship between technology and education, but only as it applies to issues associated with a particular field of study. Mark Windschilt states that this body of literature does not extend into an analysis of crucial questions such as, how the use of the Internet in the classroom benefits students? In what ways do students find and validate information using electronic resources? and, perhaps most important, "In *what contexts* is the Web useful as an inquiry tool, and *how* are students learning in these contexts."[3] While I disagree with Windschilt that the literature "stops short" of addressing these questions, it is true that entirely too much of the scholarship is currently focused on case studies and that it lacks an overall focus that encompasses broader issues common to all levels of education and across disciplinary boundaries.

As this body of literature examining curricular redesign for technologies continues to mature, in practice, the emergence of new technologies in the classroom has led to a proliferation of both online and traditional courses intended to teach students how to use electronic resources for their research. A review of the online course links on the home page of the Resource Center for Cyberculture Studies at the University of Maryland[4] illustrates the types of approaches college faculty have adopted to teach students how information technology has shaped the production and dissemination of knowledge in a variety of disciplines. The development of these courses not only reflects a recognition among scholars of how emerging technologies have shaped knowledge production, but also illustrates how information technology offers exciting new opportunities to integrate active learning strategies into the curriculum and, thereby, engage students in new ways.

The purpose of this paper is to describe a model course adapted from a class I co-taught during the Fall 1997 semester at the University of Southern California. This model attempts to move beyond traditional library instruction courses in two ways. The first is to build a sense of

empowerment among the classroom "learning community," thereby demonstrating the learners value as change agents in an information society. The second purpose of the model course is to instill a sense of social responsibility that is informed by current professional discourse and research related to service learning in higher education. The model is also derived from what I perceive to be a missing element in most information literacy courses: a need for teaching socially constructed relevancies that link information literacy skills to the realities of contemporary life in an information society. Entitled "Information Literacy and Technology Issues," the course was developed by the library and taught through the School of Engineering's Information Technology Program to not only instruct students in how to effectively use print and electronic research resources in the sciences, social sciences, humanities, and fine arts, but to examine the underlying processes of information production and dissemination within the conceptual frameworks of politics, economics, public policy, organizational theory and social justice. In the model, the intersection of these two purposes, creating an information literate student and placing that literacy within the context of social systems, is used to examine how information technology has impacted the lives of individuals within American society. The expected outcome of this model is to facilitate self-discovery and life-long learning opportunities and, through the participatory capabilities of the Internet, show in what ways learners can be empowered as agents of change in a digital environment. The model of a socially-constructed empowerment learning strategy described in this paper is not applicable to all disciplines. However, I believe it is an essential element of any information literacy program in serving higher education's public purpose of creating informed citizens in a democratic, civil society as well as teaching an information literate workforce for the future.

Resource-Based Learning and a Successful Information Literacy Program

Most of the today's generation of students entering college have at least a rudimentary understanding of how to use new technologies such as the Internet. Through the federal government's National Information Infrastructure initiative and similar state-level programs, funding has increased to help expand Internet access to schools and libraries and, as the cost to own a computer becomes more affordable, more students are arriving on campus with an

awareness developed on a computer at home. In addition, issues such as pornography, right to privacy, and crime on the Internet have received considerable media attention, furthering an awareness of the Internet among the general public.

However, while most college students possess an awareness of the Internet and are comfortable in front of a computer terminal, most lack the critical thinking skills necessary to effectively apply information technology to their research. Over the past four years, I have observed the manifestation of this deficiency in several ways, generally grounded in false assumptions about what technology can offer and nurtured by the absence on the Internet of standard forms of identification commonly found in traditional print resources. First, students have only a rudimentary concept of currency. Most assume that information found on the Internet is up-to-date simply because it is online. To someone unfamiliar with the hidden complexities of using the Internet for research, this assumption is easy to understand. The Internet is a new technology that offers a new way of discovering knowledge; therefore, would this newness not be extended to the content of the Internet? Unfortunately, this is made much more difficult because many Internet sites fail to identify at what point the information was placed on the Web, when it is was updated, and when additional information may be added or deleted. The second observation concerns a general failure among many college students to consider the source of information placed on the Internet. Again, this information is likely to be easily ascertained in traditional publications such as journals. In fact, the lack of an attributable author to a journal article is generally one of the measurements used to determine if the source is scholarly or not. On the Web, this distinction is much more difficult to ascertain. Many sites are supplemented with vibrant graphics, recorded sounds, and Java-scripted moving images that detract from the act of critical thinking about who placed this information on the Web. In other cases, site managers have buried the information under several layers of links. A third observation concerning the use of critical thinking when searching the Internet is the need for students to look for hidden agendas within the content of Internet pages. In a traditional source hidden agendas are more easily observed: Where is the publication indexed? Who is the article attributable to? Is the journal or publication associated with a specific organization? On a Web page, all of these clues can be either hidden or missing. Fourth, and perhaps most disturbing for educators, is the fact that students frequently rely on the Internet and other technologies to obtain information at

the expense of print and other traditional resources that are more focused and that will maximize the efficiency of their research endeavors. As I remind every student I have the pleasure to teach, not all information is available online and, in fact, due to copyright restrictions, the time and resources needed to digitalize information, and other factors, the majority of information currently produced is still only available in traditional formats. A student's exclusive reliance on the Internet creates gaps in their knowledge of a particular subject because only a narrow spectrum of information has been reviewed and the overall quality of their work suffers.[5]

One of the strategies that has evolved to help alleviate these deficiencies is commonly referred to as resource-based learning. This library-centered approach represents a shift away from passive learning that relies on textbooks and lectures, to an active learning approach in which "students assume more responsibility for locating and assessing the material on which they will base their learning."[6] To ensure that students can make an informed assessment of the resources available to them, they are taught information literacy skills. An individual is considered information literate if he or she possess the ability to formulate and analyze their own information needs, to find and evaluate appropriate resources that match their information needs, to appraise the value of these resources, to formulate an effective research strategy, to accurately record and store the information, to effectively disseminate the information to others, and to interpret, analyze, and evaluate collected information.[7]

Based upon detailed publications that outline the benefits of resource-based learning, such as the 1989 Final Report of the American Library Association Presidential Committee on Information Literacy, and the advocacy efforts of leadership organizations like the National Forum on Information Literacy, a coalition of over sixty organizations devoted to promoting and studying information literacy, the concept of information literacy is now recognized as an essential component of curricular reform. Although this reform effort began in the mid-1980s, it has taken on an added urgency as the Internet has made enormous volumes of information accessible to students for the first time and, as I have already outlined, created unique deficiencies in assessing the value of information based primarily on issues of currency and false assumptions that standards of identification commonly found in traditional resources are also present in electronic formats.

Most discussions concerning what constitutes a successful information literacy program, whether it is a stand-alone research course or an add-on to discipline-based curriculum, is the need to incorporate three interrelated criteria into the learning process: critical thinking skills, independent learning, and a sense of social responsibility. Before continuing, I will summarize the underlying meaning of each as it relates to information literacy, emphasizing the subtle dimensions of the third segment, social responsibility, for the remainder of this paper.

Critical Thinking

There is no universally accepted definition of critical thinking, but in general, it refers to the cognitive linkages between the act of thinking and the acquisition of knowledge. However, I believe that Richard Paul, Director of Research at the Center for Critical Thinking, Sonoma State University, offers a useful, broad-based framework for understanding the relationship between critical thinking and information literacy. He describes critical thinking as "a process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observations, experience, reflection, reasoning, or communication, as a guide to belief and action."[8] Paul continues by illustrating in what ways critical thinking is actually a form of reasoning used in the act of problem solving. He outlines eight elements of reasoning:

1. The purpose or goal--refers to an actively created conceptualization of what we are attempting to accomplish as we reason. In other words, what is the expected outcome of pursuing this act of reasoning?
2. Question at issue--the problem that is trying to be solved; this represents the purpose because reasoners must have a clear understanding of how the question relates to the expected outcome.
3. Ideas or concepts--are present in all forms of reasoning and all reasoning uses one set of ideas or concepts. To effectively communicate in a particular subject, one must learn the concepts and vocabulary of that subject. It is an essential component of organized thinking.
4. Assumptions--refers to the starting point of reasoning and those things that we take for granted.

5. Information, data, and facts--the act of interpreting the accuracy of information on a given subject and assigning it meaning.
6. Inferences and interpretations--what is created from the concepts and assumptions that one brings into the reasoning situation. According to Paul, developing an inference is based on applying the following cognitive formula: "Because this is so, that also is so (or probably is so)." As we reason, we interpret the information based on prior knowledge and experience and determine for ourselves what we deduce.
7. Conclusions--refers to the decision we have made about the result of the information gathered, the assumptions and interpretations made about that information, and the way in which it has been interpreted in its entirety.
8. Consequences and implications--reasoning can potentially continue forever. Only after a stopping point has been reached can the consequences or implications of one's research be determined. It is also important to understand that "all reasoning has consequences or implications beyond those the reasoner has considered."[9]

Supporting the self-assessment process of any student's research endeavor are seven widely accepted intellectual standards that compliment the elements of reasoning described above, all of which are likely to be familiar to any librarian who has asked a patron to evaluate carefully the information that they are seeking to analyze an issue or to solve a particular problem. These are: clarity (the need for a statement to be accurate and absent of uncertain messages); accuracy (a statement free of erroneous information); precision (the need for exact detail in a statement since information can be accurate but lack precision); relevance (must be pertinent and applicable to the issue in question); depth (a statement can adhere to all the above intellectual standards but remain superficial); breadth (the consideration of as many points of view as possible as it pertains to the statement); and logic (the act of looking for contradictions in the framework of what has been concluded).[10] Combined with the strategic use of Socratic questioning methodologies in teaching, a comprehensive student assessment program to measure the student's progress in learning critical thinking skills, and active learning assignments that engage students in a way that ensures they will not become bored or frustrated, this framework illustrates the complexities

underlying the use of critical thinking associated with information literacy. And, we haven't even mentioned how these elements of reasoning and intellectual standards may be redefined and/or distorted by information technology applications.

Independent Learning

The concept of developing an independent learner is well established in both K12 and post-secondary education literature. Independent learning methodologies are closely allied with adult or lifelong learning and is considered an important part of curricular reform both in the United States and abroad. Not surprisingly, much of the recent work in this area examines independent, lifelong learning within the framework of information technology. For example, the Centre for Educational Research and Innovation of the Organization for Economic Co-Operation and Development (OECD) has produced a number of reports outlining the need for lifelong learning. The content of these reports emphasize that lifelong learning programs should not adhere to traditional models of formal schooling, both in what ways they promote continuing education to support a competitive economy and how technology can be utilized to maximize knowledge acquisition opportunities in adult learning programs. The purpose of these reports is to provide information to educational decision-makers and address policy issues concerning independent learning in OECD member states.[11] The content of these reports also illustrate the global distribution of independent learning concepts and its relationship to economic development in a variety of countries throughout the world.

A successful independent learner is generally capable of employing four strategies that allow that individual to find, evaluate, and synthesize information independently. First, an independent learner takes responsibility for his or her own actions. This capacity to take the initiative in finding information is the first step towards becoming self-reliant in discovering new knowledge and solving problems. Second, an independent learner sets and works toward a well-defined goal. Just as reasoning can continue indefinitely, so too can the search for information. Without a goal, the learner can easily become overwhelmed with information overload. The advent of emerging technologies has accelerated access to information exponentially, rendering goal-setting an even more critical element of independent learning. Third, an independent learner is one who assesses his or her own progress. This is also a factor made more critical in the

information age. The path from question to answer is rarely linear and often littered with red herrings that are the result of unsophisticated Boolean searches on massive online databases. It is important, therefore, to not only establish a goal (expected outcome), but to continuously maintain guideposts throughout the research process. These guideposts would also help to make choices among many different research paths. The assessment of one's progress is closely related to the critical thinking skill of making assumptions because every in-depth research question includes paths to new information that may or may not lead to the expected outcome. The fourth characteristic of an independent learner is that he or she has a vision for himself or herself and creates alternatives. This capability allows the learner to move beyond the outcome and to seek other ways to find an answer or address a specific issue. In this case, emerging technologies can facilitate the creation of alternatives. For example, most print indexes are very narrow in scope of coverage and serve a specific discipline. Large databases, such as CARL UnCover, allow the learner to search journals from a number of fields at the same time, thus providing a multi-disciplinary perspective on a topic (ironically, this can be a hidden benefit of using "unsophisticated Boolean searches on massive online databases"). Multidisciplinary search results are but one way that alternatives can be discovered.

Independent learning capabilities, once instilled in an individual, can then be carried on into adulthood and applied to any area of interest or vocation. How is independent learning related to critical thinking? Critical thinking skills provide the foundation of logical reasoning from which to launch lifelong, independent learning.

Social Responsibility

The third criteria generally associated with a successful information literacy program is to teach learners a sense of social responsibility. This criteria is unique in several respects. While critical thinking and independent learning are related to intellectual improvement of the self, social responsibility is concerned with a learner's relationship to his or her environment and the positive contributions that person makes to society. In other words, critical thinking and independent learning provide the means for becoming information literate, while learning to be socially responsible speaks to what ends these learning experiences serve, both in terms of the learner's contribution to public democracy as well as the value to the democracy in nurturing an

information literate citizenry. The digital revolution has added a dimension of urgency to this learning strategy. For example, the globalization of the world economy has created the need for a technologically literate, highly skilled workforce to ensure that the United States maintains a competitive advantage with other nations in networked industries.[12]

Social responsibility learning is also unique because it is not a skill, but a mode of analysis that builds a sense of awareness about society's democratic values. David T. Sehr describes five key practices for nurturing public democratic values and attributes and how to create an awareness of social responsibility among learners. These are: 1) exploring the learner's interdependence with others in a community setting; 2) studying issues of equality and social justice as it relates, for example, to cultural diversity; 3) using discussion and action on public issues through collaborative research projects; 4) critically examining social reality and culture (this practice involves transforming students from passive recipients of information to active inquirers and researchers); and 5) developing a learner's capabilities for public democratic participation.[13] Although these practices can be taught to children at a very early age, they also have value in post-secondary education.

The practices of instilling a sense of social responsibility in learners are shaped in new ways by the information technology revolution. The Internet has created a new cyberculture with community characteristics paralleling those of the built environment. Bringing this back into the realm of information literacy, let's consider for a moment the first practice, the learner's interdependence with others. To draw an example from the model course lecture on the scholarly research process in the digital age (session seven of the attached syllabus), a number of new questions can be raised about a learner's interdependence with others, such as, how has electronic mail facilitated scholarly communication and interdependence? How has survey research changed and what are the advantages and disadvantages of using the Internet to gather data? In what ways are scholarly communities rendered more inclusive or exclusive in cyberspace? How has evaluative procedures changed when applied to research on the Web? Groups of scholars are but one of thousands of identifiable communities on the Internet and each has unique characteristics shaped by the electronic medium of cyberspace that produce an effect on a learner's interdependence to those communities.

Many of the contemporary studies of social responsibility pedagogy and learning are described within the conceptual framework of "service learning." Service learning practices closely parallel those described by Sehr, but often emphasize community service and involvement at the local level.[14] Service learning literature usually falls into one of five or more broad categories. A significant proportion of scholarship is devoted to describing community service programs. These case studies encompass all levels of post-secondary institutions and many are focused on a specific academic discipline. A number of studies also explore the positive impact service learning programs have on knowledge acquisition and retention among student participants, examining in particular their value in engaging students in the democratic process and serving as a foundation for analyzing contemporary social issues such as diversity and multiculturalism.[15] A third category of literature examines the process of designing and integrating service learning into the curriculum. Because service learning represents a departure from traditional ways of thinking about higher education, many scholars view it as a key component of successful curricular reform for the next century. A fourth segment of literature concerns the development of assessment measures and the implementation of guiding principles, standards, or other means for evaluating the success of service learning programs. The final identifiable category of service learning literature reviews the issue of professional development and teacher training. Curriculum designers generally agree on the fact that successful implementation of a service learning program can only take place if their is broad-based institutional support for comprehensive professional development and training, not only of instructors, but curriculum specialists and administrators as well.[16]

Despite the wealth of scholarship devoted to studying service learning in higher education, their is a poverty of effort given to examining how it intersects with issues of democratic participation and social responsibility in a digital society. In addition, while the concept of social responsibility is a recognized element of information literacy competencies, it rarely incorporates new models of service learning practices and community involvement outlined in a number of recent works.[17]

From Critical Thinking Instruction to Critical Thinking Empowerment

One of the underlying themes associated with how students benefit from participating in service learning is validation of their own knowledge. It gives students "a sense of their own voice" and "a sense of intellectual self-confidence."[18] Sehr explains:

> They recognize their own agency as intellectual actors, and thus their potential as independent social and political actors....The idea is to help students better understand how their socially constituted knowledge and beliefs support and are supported by existing social relations and structures of power in society. By becoming more aware of the connections between their knowledge and the structures of power in society, young people open up the possibility of taking action to transform both the state of their own knowledge and existing social relations.[19]

Without explicitly stating so, Sehr is describing how service learning can *empower* students to be socially responsible. This sense of empowerment is informed by the reasoning skills of critical thinking and the ability to learn independently.[20]

But is it enough to teach critical thinking skills so that students are given a sense of empowerment? How can educators build linkages in an information society between learners and social responsibility, thereby fulfilling the sense of empowerment alluded to by Sehr? Most of the literature approaches the first question by describing, usually in case study fashion, "successful" service learning programs implemented at a variety of institutions. In addition, the question of how to empower students to be critical thinkers becomes a part of a broader discourse concerning investigations of the impact of service learning on students. Studies of this nature frequently rely on comparative analysis of students who did or did not participate in field research or they measure students awareness of social responsibility before and after participating in a service program.[21] As I have already mentioned, the second question has yet to be adequately explored.

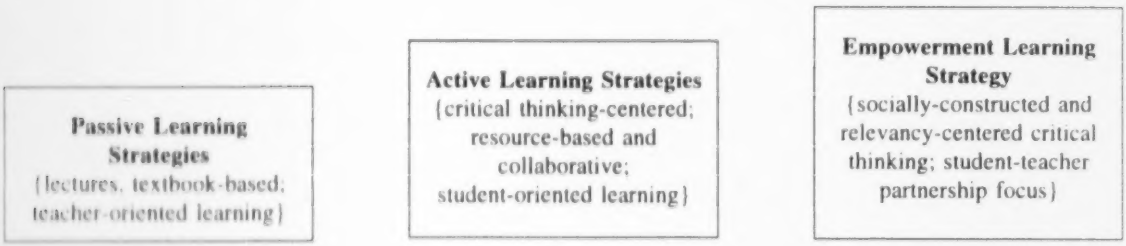
I believe that one of the most effective means of linking a student's learning experience to social responsibility is to teach relevancy-centered critical thinking. Relevancy-centered critical thinking provides a sense of empowerment by using social constructs to build a bridge of

relevancy between the abstractions of learning specific reasoning skills and the application of those skills in a meaningful way to issues of civic engagement, social justice, democratic participation, and personal responsibility. This is not a rejection of the critical thinking skills outlined earlier by Richard Paul and others, but rather places social responsibility at the center of why critical thinking skills are important in the process of learning and the act of discovering knowledge. Relevancy-centered critical thinking serves as an instrument for engaging students in an active learning strategy that validates their sense of empowerment in practical ways.

Relevancy-centered critical thinking also places an emphasis on the linkages between the student-teacher relationship as the catalyst of knowledge acquisition. While traditional, passive learning strategies typically focus on the teacher as the authority figure and rely on textbooks and lectures for disseminating information. Students are viewed as "empty vessels" into which knowledge is distributed. Active learning strategies are student-centered using active engagement of the students' thinking processes in learning and applying knowledge. The teaching methods associated with active learning encompasses a variety of methodologies, each intended to promote hand-on experiences and critical thinking.[22] I believe that an empowerment learning strategy of social responsibility is most likely successful if the exchanges and collaboration between the student and teacher are emphasized (see Figure 1).

Figure 1

Progression Towards an Empowerment Learning Strategy


Passive Learning Strategies
(lectures, textbook-based; teacher-oriented learning)
Active Learning Strategies
(critical thinking-centered; resource-based and collaborative; student-oriented learning)
Empowerment Learning Strategy
(socially-constructed and relevancy-centered critical thinking; student-teacher partnership focus)

By conducting learning in this way, the student can better appreciate the relevancy of their knowledge acquisition in a socially responsible manner because both the teacher and the student can be seen as equal change agents in a partnership based upon common democratic values. This is not to say that the active learning practices of collaboration and reflection, for example, are not employed, but that the *content* of these practices are relevancy-centered and socially constructed.

Relevancy-Centered Critical Thinking and Computer Literacy

As the United States continues to evolve into a knowledge-based society, the impedance for educating an information literate citizenry will also continue to evolve and grow. Many scholars and public policy-makers argue that, as knowledge-based industries begin to dominate the landscape of corporate America, a greater demand will be placed on maintaining an information literate citizenry in order to compete in the global economy. The Department of Commerce estimates that by the next century, sixty percent of all jobs will require proficiency in information and computing skills, an increase of thirty-eight percent over what is required of workers today. In addition, a majority of adults will require lifelong education and training in emerging technologies to not only maintain workforce competitiveness, but to ensure individual success.[23]

Given these facts, there is little argument over the need for computer literacy learning in higher education and that librarians are among the best qualified to fill the intellectual need for formulating and teaching well-constructed, comprehensive computer literacy programs. Librarians are primarily responsible for instructing learners how to discover, utilize, and evaluate information. Furthermore, librarians are on the cutting edge of understanding how emerging technologies shape knowledge from a multi or non-disciplinary perspective.[24] The majority of this curriculum focuses on resource-based learning using critical thinking skills. The expected outcome is to develop a lifelong learner with the information literacy skills to conduct research and discover knowledge efficiently across disciplinary boundaries and to pursue information independently.

However, I have observed that, while most information literacy programs (whether they are stand-alone or discipline-based) place considerable emphasis on critical thinking competencies and independent learning, they pay little, if any, attention to the standard of social responsibility. This statement is supported by the fact that none of the summarized descriptions of "successful" information literacy programs noted in Patricia Senn Breivik's book, *Student Learning in the Information Age* include social responsibility in a digital society as part of their purpose. This is the case despite the fact that the American Library Association and others have recognized the importance of social responsibility in creating an information literate learner.[25]

This deficiency in resource-based pedagogy also ignores the increasing role of service learning in contemporary curricular reform efforts in higher education. A number of recent findings show that students who have participated in service learning exhibit a heightened sense of social responsibility and are more likely "to see themselves as connected to their community, to value service, to endorse systematic approaches to social problems, to believe that communities can solve their problems, and to have a greater racial tolerance."[26] These findings also show that students are more confident, have greater self-esteem, exhibit more sophisticated political and social skills, and build important relationships outside of the classroom.[27] Given these findings, it would, therefore, be in the best interest of library instructors to incorporate elements of service learning into their classes, regardless of whether they are invited guest lecturers or conducting a stand-alone course. The unique perspectives that librarians possess concerning the impact of information on society can offer a value-added dimension to service learning that has not, as yet, been explored by educational researchers and curriculum designers.

Course Description

This model course is adapted from a class I co-taught at the University of Southern California (USC) in the Fall of 1997. Entitled "Information Literacy and Technology Issues," it was created during the preceding Summer through a series of initiatives developed by the Vice-Provost for Undergraduate Studies and the Director of the Leavey Undergraduate Teaching Library. The purpose of the course was to begin laying the foundation for broad-based computer literacy learning at the undergraduate level at USC and to prepare undergraduates for

understanding the complexities of emerging technologies in research and effective learning.

Due to the library being considered a service unit on campus (now combined with University Computing Services and Telecommunications to produce the Information Services Division) rather than an academic teaching unit, the course had to originate from an academic program even though it would be taught by librarians. The School of Engineering's Information Technology Program (ITP) was deemed the most appropriate choice because it complimented other 100-level courses in ITP. Due to low enrollment, the original four sections offered were reduced to one. A single section was taught during the Spring 1997 semester and another section has been placed on the Fall 1998 schedule.

In many ways, the model course, as represented in the attached syllabus, closely parallels the content of the class taught in the Fall of 1997. However, the model is intended to illustrate what can form from the intersection of information literacy pedagogy, relevancy-centered critical thinking, and social responsibility. The model is also intended as an example of how traditional library instruction can be transformed in new ways by incorporating contemporary research in service learning curriculum reform. The attached syllabus and brief examinations of lectures from the first and second half of the course in the following section of this paper will help to move the discussion out of the sphere of theory and into the realm of practice.

The course is taught in two parts. The first adheres to traditional resource-based pedagogy and learning by introducing students on the use and evaluation of different online and print resources in the library. However, students learn these resources within the context of how they serve as a medium for disseminating knowledge produced through active, scholarly research in the four primary areas of human intellectual creativity: the sciences, the social sciences, the humanities, and the fine arts. A deliberate distinction is made between the humanities and the high arts because the disciplines of music, dance, theater, and film offer unique perspectives into research and knowledge production in the information age and they help students to understand research and information in non-textual terms. In a separate session, additional attention is paid to information produced by the government and information in statistical formats.

The second half of the course, to quote from the syllabus, "examines the technology underlying the production, gathering, dissemination and use of information from social, political, public policy, economic and organizational perspectives to help measure information technology's

impact on our lives and to evaluate how the future of American society will be reshaped by it." Each session in the second part of the course introduces the learner to either a single issue, such as the government attempts to formulate an national information policy, or a variety of related issues, such as issues of diversity, multiculturalism, and racism in a digitalized society.

In conclusion, the sessions comprising the first half of the model course are intended to teach students how to use and evaluate specific information resources. Special emphasis is placed on not only the mechanisms underlying how information is produced and reshaped by technology in various disciplines, but *why it is* and what filters must that information pass through before it can be viewed in a textbook or encyclopedia or on a computer screen. The latter sessions show students how information technology has reshaped society, but with an emphasis on empowering learners a change agents within a digitalized environment.

Sample Session Notes

A series of short lectures, group discussions, active learning assignments, and hands-on computer experience guide the students through the resource-based portion of the course. These teaching methods are intended to introduce students to the complexities of constructing a critical approach to research, key print and electronic research tools available in the library, and the processes of information production in the sciences, social sciences, humanities, and fine arts as well as information produced by governments and information in statistical formats. The social responsibility/service portion of the course places the characteristics of scholarly research and information production within the context of various social systems, cultural processes, and social justice issues. To help highlight the model course in more detail, two sample lectures are described below: Session Five, "Characteristics of Scholarly Research and Information Production in the Fine Arts," and Session Twelve, "Effects of Technology on Public Policy, Part One: Government Attempts to Formulate a National Information Policy."

Sample of First Half Session

As alluded to earlier, a deliberate attempt was made to create a distinction between the humanities and the fine arts of music, dance, theater, and film, even though the fine arts are

many times included in resource-based discussions of the humanities. For the sake of brevity, I will describe only that part of the session devoted to dance, but the format parallels coverage of music, film, and theater as well as other first half sessions. However, in this case, I would begin the class with a series of video clips of ballet works and sample clips from the dance company Pilobolus, Mark Morris, and Alvin Ailey dance companies to show the range of expression embraced by dance. After asking the students to reflect upon what they just saw, I would then proceed to describe the characteristics of information production of dance, with special emphasis placed on the fact that dance is physical ("scholarship of the body and soul rather than of the mind"), frequently very personal, sometimes directed at studying peripheral elements, such as lighting or choreography, builds on the work of others (the concept of "styles") even though presentations can be very unique, and usually employs historical analysis to place the endeavor into intellectual context. Finally, it is noted to the class participants that the work of the individual is essential to enriching the overall performance. At this point, questions would then be asked of students, such as what is "scholarship of the body" mean? How might human creativity shape research? How does peripheral elements of dance, such as lighting, make it unique from disciplines outside of the fine arts? And, compare dance to, say, psychology and describe the differences and similarities regarding how you would approach a problem.

After this has been thoroughly explored, I would then describe the formats of information that result from the characteristics described above. In the case of dance, dissemination of knowledge is now conducted through scholarly journals and books, the exchange of videotaped performances, through continued use, although much less frequently, of Laban notation (describes a dancer's movements and position in relation to another dancer). Students then would be asked to reflect on how these formats are cataloged and classified within the library and to look at the process backwards--how do these formats restrict or enhance the process of research? Sample topics for discussion that could arise from this question could point to issues of access and distribution of individual or company works and issues of copyright as it applies to human creativity as opposed to traditional, text-based or experimental scholarship.

The final part of each session would be devoted to examining in detail the impact of information technology on scholarly research and formats of knowledge dissemination. In the discipline of dance, technology has impacted the process of archiving performances through laserdisks, it has led to a small number of electronic journals, several moderated listservs, and directories on the Internet providing information on grants, dance companies, performances, and dance conservatories. The Internet has also facilitated the global exchange of information about all forms of dance. Perhaps most dramatically, new technologies, such as new software used to measure the movement of dancers, help to facilitate the computerized analysis of physical expression. The students would then be asked if they can provide any other examples of how information technology has enhanced the dissemination of knowledge in dance research and also to reflect on how technology can shape the teaching of dance.

The class then would proceed to the learning lab for hands-on exploration of fine arts resources in print and online. Each student would then be asked to complete a short lab assignment that would test their ability to find and understand works of fine arts in digital formats.

Sample of Second Half Session

Session Twelve is an attempt to illustrate how political and public policy practices shape the process of creating a cogent national information policy. I chose the research of Neuman, McKnight, and Solomon to guide the lecture because I found their work, *The Gordian Knot: Political Gridlock on the Information Highway*, to be a compelling exploration of historical, cultural, and political issues concerning how our government has attempted to regulate the information age.

I would begin by describing how visions of public purpose and private interest frequently clash to produce an ineffective policy that can lead to inflaming contemporary social problems, such as access to computers in poor neighborhoods or allowing overseas competitors to move forward on research initiatives in knowledge-based industries while the United States struggles with political gridlock. The creation of the Telecommunications Act of 1996 is then used as a case study to further illustrate problems of regulation and privatization of the Web. This part of the lecture then concludes by outlining how the "new paradigm" of an open communications

infrastructure described by Neuman, McKnight, and Solomon may solve the problem of political gridlock. I would then ask the students to take a moment and write down what they feel would be the ideal of characteristics of a political candidate advocating a national information policy platform. These candidates would then be shared with the rest of the class and we would discuss commonalities and differences among the proposed "candidates."

The second half of Session Twelve would then be devoted to a series of short lectures on national information infrastructure initiatives in other countries, placing the policy-making process within the political and cultural context of a parliamentary democracy (Japan), an authoritarian democracy (Singapore), a developing or new democracy (Brazil), and a transnational consortium (the European Union). In each case, policy-making processes, public and private sectors of the economy, and the role of culture are examined in detail to illustrate the variety of policy approaches taken in other countries and the factors associated with inhibiting or enhancing government information initiatives overseas. This part of the session would then conclude with the students dividing into four groups, each responsible for examining one of the following questions: How does culture shape policy-making? How does the existence of infrastructures influence the policy process? What do you see as the future outcomes of each example given? And, what can be learned by studying other country's experiences in formulating a national information policy? They would then briefly state their conclusions to the rest of the class.

In this and the other lectures of the second half of the course, the relevancy of learning about these issues are emphasized consistently. Social justice issues, such as how policy and culture creates, for example, the separation of information haves and have nots in communities are also actively explored. To further engage the students, I would invite guest lecturers to present and highlight controversial issues, thereby providing alternative viewpoints besides my own. I would also show selected film and television clips in class to illustrate technology's impact on society through the lens of popular culture; this would help engage students in ways that are relevant to their lives in college.

Conclusion

A successful information literacy program generally encompasses three broad competencies or modes of analysis: critical thinking skills, fostering independent learning, and social responsibility. The first two subjects form the basis of most programs, however, the issue of social responsibility is generally ignored. Current research in the area of service learning offers strong evidence supporting the benefits of teaching social responsibility, especially as it applies to building linkages between the learner and the communities that that individual occupies. On the other hand, although a diverse and growing volume of higher education service learning literature has been written during the last several years, it has so far failed to consider our society's transformation into a digital environment. The lack of focus in this area fails to recognize communities dominated by knowledge-based industries and labor and, most importantly, how issues of civic engagement, democratic authority, social justice, societal values, and personal responsibility are redefined and distorted by information technology.

To help form linkages between the abstractions of critical thinking and independent learning skills and the values of social responsibility in a digitalized society, I have attempted to outline a model course that teaches relevancy-centered critical thinking skills, rather than basic competencies, and to formulate lesson plans and learning strategies that *empower* students with an understanding of how they can act as agents of change in an information society. A greater goal would be to initiate, as Ira Shor describes, "an agenda for empowerment" in information literacy courses that serves the interests of both knowledge-based and service learning.

References

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9. Ibid

10. Ibid

11. *Adult Learning in a New Technological Era*. (Paris, France: OECD, 1996). Other titles published by the OECD that relate to independent learning, adult education, and technology include: *Lifelong Learning for All*. (Paris, 1996); *Information Technology and the Future of Post-Secondary Education*. (Paris, 1996); *Changing the Subject: Innovation in Science, Mathematics, and Technology Education*. (Paris, 1996); *Adult Learning in OECD Countries*. (Paris, 1996); *Literacy Skills for the Knowledge Society*. (Paris, 1997).

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14. See Lipka, Richard P. "Research and Evaluation in Service Learning: What Do We Need to Know?" In *Service Learning. Ninety-Sixth Yearbook of the National Society for the Study of Education, Part I*. (Chicago, IL: University of Chicago Press, 1997).

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16. For a thorough review of research on service learning see: Pollack, Seth Seader. *Three Decades of Service-Learning in Higher Education (1966-1996): The Contested Emergence of an Organizational Field.* (Ph.D. diss. Stanford University, 1997).

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18. Sehr, *Education for Public Democracy.*

19. Ibid.

20. The concept of empowerment in social responsibility learning is not new. See for example: Shor, Ira. *Empowering Education: Critical Teaching for Social Change.* (Chicago, IL: University of Chicago Press, 1992).

21. See for example, Eyler, Janet et al. *Service-Learning and the Development of Reflective Judgement.* Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, March 1997). ED408507

22. Lubbers and Gorcyca provide a well-defined framework for understanding how active learning is applied in pedagogy by identifying ten practices gleaned from Arthur Chickering's 1989 report, *Faculty Inventory: Seven Principles for Good Practices in Undergraduate Education* (Milwaukee, WI: The Johnson Foundation). These ten practices involve asking students to: 1) present their work in class; 2) summarize the differences and similarities among a variety of viewpoints; 3) relate subjects covered in coursework to events outside of the classroom; 4) undertake independent learning; 5) challenge ideas of classmates, the instructor and the content of course readings; 6) provide "real life situations to analyze"; 7) employ simulations or role-playing in class; 8) suggest additional readings or course activities; 9) participate in volunteer activities related to the course; and 10) work with the instructor in carrying out research projects. (Lubbers, Charles A. and Diane A. Gorcyca. "Using Active Learning in Public Relations Instructions: Demographic Predictors of Faculty Use." *Public Relations Review* 23 (Spring 1997): 67-80).

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Francisco, CA: Jossey-Bass, Summer 1995).

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27. Ibid.

Appendix 1
Course Syllabus

University of Southern California
School of Engineering/University Libraries
ITP106 Information Literacy and Technology Issues

Robert V. Labaree, Instructor
Von KleinSmid Center Library
Office: 213-740-5824
Office Hours: 9:00am-11:30pm Tuesday
email: labaree@calvin.usc.edu

Fall, 1998
Monday, 9:00am - 11:50pm
Leavey Auditorium (lecture)
Leavey Learning Room B (lab)
www.lib-usc.edu/~labaree/syllabus.htm

I. Overview

This course has a dual purpose that encompasses its content. First, I will introduce you to print and electronic research resources in the areas of the sciences, social sciences, humanities, and the fine arts. These resources will not only be placed within the context of how technology has impacted the production, gathering, and dissemination of information, but teach you to apply these research tools to your future academic endeavors. Second, together we will examine the technology underlying the production, gathering, dissemination and use of information from social, political, public policy, economic and organizational perspectives to help measure information technology's impact on our lives and to evaluate how the future of American society will be reshaped by it. We will not merely locate information technology *in* the social process, but explore its role *as* a social process, and in particular, consider some of the ways in which the communications revolution has transformed American public life.

II. Purpose and Rationale

Today we live in what is commonly termed the "Information Age." Information has become a commodity that helps shape public policy and opinion, has created a dichotomy of information haves and have nots, and has helped to create a knowledge-based society that is increasingly dependent upon technology to compete in the global economy. In short, information technology has penetrated to the very core of our daily lives. For learners such as yourself, it has re-arranged how we acquire, search for, and synthesize knowledge.

Empowering learners with the ability to process information made available though technology, employing critical thinking processes that help to evaluate the most efficient strategies for finding information, and giving learners the tools needed to flourish in an information society are common strategies employed by curriculum designers to overcome these and other challenges brought about by the introduction of technology. The term used to describe this empowerment strategy is "information literacy." An individual is considered information literate if he or she possess the ability to formulate and analyze their own information needs, to find and evaluate appropriate resources that match their information needs, to appraise the value of these resources, to formulate an effective research strategy, to accurately record and store the information, to effectively disseminate the information to others, and to interpret, analyze, and evaluate collected information. The goal of this course is to give you the intellectual tools to become information literate, but grounded in a sense of social responsibility in a digital society.

III. Course Format

Our class will be an interactive "learning community" and consist not simply as a series of lectures. Classes will be a combination of short lectures, discussions, and lab work. Lectures will present a body of issues and analysis associated with the subject of each week's class. Discussions will focus on topics raised in our readings and the contents of the lecture. Lab work will consist of individual computer-based learning designed to help you complete assignments and learn about specific research tools.

It is expected that everyone will complete the assignments on time, attend each class, and participate fully in all classroom activities as they occur. Prominent teaching and learning methods employed in class will include reading assignments, lectures, small and large group discussions, debates, and case study analysis. In addition, I may draw upon the expertise of others to conduct guest lectures about specific topics. I will also employ during the second half of the course the use of film, television, and other media to emphasize specific issues concerning technology's impact on society. One of the most interesting and enriching ways to study how technology has impacted our lives is to view it through the lens of popular culture.

Thorough preparation for each class by every member of our "learning community" is critically important in making our interactive, sharing classroom a successful and rewarding experience for all of us.

PLEASE NOTE: If you have a disability which you believe will make it difficult to complete course assignments as outlined in this syllabus, please make an appointment with me ***immediately*** so that I can either arrange for appropriate assistance or design an alternative procedure to evaluate your work. Keep in mind that the Disability Services and Programs office on campus can provide you with additional assistance.

IV. Class Schedule

This class will meet on Mondays from 9:00am - 11:50pm. You are expected to attend all class meetings. If you have a valid excuse for missing a session, you must notify me in advance. Total class time is three hours per week. The class will meet for two hours (with one break) in class and one hour in lab during the first eight weeks and three hours in the Leavey Auditorium thereafter. Additional time commitment for this course will include approximately one hour per week in take home assignments and approximately one and a half hours per week of readings (~60 pages/week). Please note that since each of you will submit a final course project paper rather than take a final examination for this class, we will have a class session at our usual time during final examination week.

V. Course Readings

1. Garson, G. David. *Computer Technology and Social Issues*. Harrisburg, PA: Idea Group Publishing, 1997. (in University Bookstore)

This book will provide the basis for discussing specific issues concerning the social impact of information technology. However, as with most texts, it tends to supply more information than you need in order to understand key concepts. Therefore, throughout the course I will point out sections that may be more difficult to understand, that need to be emphasized, or that can be ignored altogether.

2. Journal articles and book chapters. (see "Course Schedule and Readings")
Somewhat ironically, the accelerated pace of technological innovations has made it very difficult to put together a reader that represents the latest news, views, opinions, and research on the social aspects of new technology. Therefore, I will distribute materials in class that I feel will provide you with the most contemporary literature available. I encourage you to offer suggestions to the class of other readings you may find that could contribute to our overall discussions or that you deem as noteworthy.

3. Bibliography of Further Readings
This is not required reading for the course, but the citations to books and journal articles listed here will help you to understand the current research on the social aspects of the Internet and the information revolution in general. The bibliography can be accessed via the online version of this syllabus at http://calvin.usc.edu/~labaree/syllabus.htm

VI. Evaluation Methods

Each class participant will be evaluated on the following basis:

Method		Percent of Final Grade
1.	Class participation	10% **(including attendance)**
2.	Lab assignments	10% each/40% total
3.	Internet "Community" assignment	15%
4.	Final Project	35%

A standard grading scale of 100-90 A; 89-80 B; 79-70 C; 69-60 D; >60-F will be employed for this class. There will be no curving of grades because it puts people in comparison with one another, with the success of a few serving to impede the success of others. Furthermore, universal success is impossible when using a curve and it contributes to grade inflation. (Astin 1987)

VII. Description of Each Evaluation Method

1. Class Participation

Discussions will be open forums that facilitate the exchange of ideas, opinions, and personal anecdotes about our experiences with information technology and its impact on our lives. Please be cognizant of everyone's First Amendment right to Freedom of Speech or, if you would rather, adopt the following edict if you find yourself especially agitated by what someone else says. That is: "Everyone is entitled to their opinion, but everyone else is entitled to ignore it." Civility is the name of the game.

2. Lab Assignments

Particularly during the first eight weeks of the course, lab work will consist of assignments to help you learn how to use and evaluate the various methods of accessing information electronically. Individual work will consist of using a computer to complete the assignments in an interactive classroom [Learning Room B] located here in Leavey. The culmination of these assignments will provide the basis for your Final Project Paper (see below).

3. Internet "Community" Assignment

A mid-term assignment for this class will be to write a short paper (6-10 double-spaced pages) that examines a "community" on the Internet. The paper will describe this community, state its purpose, note it's membership, and describe how the Internet facilitates its mission and/or goals. The purpose of this assignment is to introduce you to the sociological aspects of the Net and how it serves as a medium for a specific agendas.

4. Final Project Paper

The final project will be bibliographic in nature (an annotated bibliography or bibliographic essay) that will draw upon your research interests and disciplinary backgrounds. It will be broken down into smaller, incremental assignments which will be due throughout the semester. The final project paper will be used to determine the skills learned in the class and to measure how choices were made to include certain types of information from the various resources covered in class.

VIII. Course Schedule and Readings

Listed below are the topics to be covered in each session of this course. The lecture notes are included with the online syllabus. They are intended to help guide you through the class, but they are not complete and are subject to change. Therefore, it is highly recommended that you supplement them with your own notes taken during class. I will inform you as the course progresses of relevant sites on the Internet associated with that week's topic. Suggestions are welcome. The readings listed under each session are due to be read for group discussion by the next session.

Session One — *Syllabus / History of Electronic Publishing and Information Dissemination*

Assigned Readings: Boyce, Peter B. and Heather Dalterio, "Electronic Publishing of Scientific Journals." *Physics Today* 49 (January 1996): 42-47.

Session Two — *Characteristics of Scholarly Research and Information Production in the Sciences*

Assigned Readings: Bowers, David A. Jr. and Samuel H. Fisher III. "Caught Up in the Web: Political Scientists' Use of the Internet." *Social Science Computer Review* 15 (Winter 1997): 421-426

Cirincione, Carmen and Gustavo A. Gurrieri. "Research Methodology: Computer-Intensive Methods in the Social Sciences." *Social Science Computer Review* 15 (Spring 1997): 83-97.

Session Three — *Characteristics of Scholarly Research and Information Production in the Social Sciences*

Assigned Readings: Jones, Paul, "Whither Humanities and Advanced Technologies?" *Sequence* 32 (January/February 1997):

Unsworth, John, "Some Effects of Advanced Technology on Research in the Humanities." In *Gateways to Knowledge: The Role of Academic Libraries in Teaching, Learning, and Research*, edited by Lawrence Dowler (Cambridge, MA: MIT Press, 1997)

[SCIENCE COMPUTER LAB ASSIGNMENT DUE]

Session Four — *Characteristics of Scholarly Research and Information Production in the Humanities*

Assigned Readings: Heilbrun, James. "Innovation in Art, Innovation in Technology, and the Future of the High Arts." *Journal of Cultural Economics* 17 (June 1993): 89-98.

[SOCIAL SCIENCES COMPUTER LAB ASSIGNMENT DUE]

Session Five — *Characteristics of Scholarly Research and Information Production in the Fine Arts*

Assigned Readings: Swoboda, Walter J. et al. "Internet Surveys by Direct Mailing: An Innovative Way of Collecting Data." *Social Science Computer Review* 15 (Fall 1997): 242-255.

[HUMANITIES COMPUTER LAB ASSIGNMENT DUE]

Session Six — *PART 1: Characteristics of Scholarly Research and Information Production Associated with the Government*
PART 2: Characteristics of Scholarly Research and Information Production Associated with Statistical Data

Assigned Readings: Simon, Rita J., "An Effective Journal Editor: Insights Gained from Editing the *American Sociological Review*." In *Editors as Gatekeepers: Getting Published in the Social Sciences*, edited by Rita J. Simon and James J. Fyfe (Rowman and Littlefield, 1994)

Weiss, Kenneth R. "A Wary Academia on Edge of Cyberspace [sic]." *Los Angeles Times* (March 31, 1998): A1.

"What We See and Can't See in the Past." *Journal of American History* 83 (March 1997): 1217-72.

[FINE ARTS COMPUTER LAB ASSIGNMENT DUE]

Session Seven

PART 1: Analysis of the Scholarly Research Process
PART 2: Pedagogy in the Information Age: A Cross-Disciplinary Analysis

Assigned Readings:

Calabrese, A. and M. Brochert. "Prospects for Electronic Democracy in the United States: Rethinking Communication and Social Policy." *Media, Culture, and Society* 18 (April 1996):

Plotkin, Adam S. "The First Amendment and Democracy: The Challenge of New Technology." *Journal of Mass Media Ethics* 11 (1996): 236-.

"The Potential of Computers to Democratize American Life." [Chapter Two] In *Computer Technology and Social Issues* by G. David Garson (Harrisburg, PA: Idea Group Publishing, 1997)

"The Potential of Computing to Threaten Democratic Values." [Chapter One] In *Computer Technology and Social Issues* by G. David Garson (Harrisburg, PA: Idea Group Publishing, 1997)

Session Eight

PART 1: Information Technology as a Force For and Against Democratization
PART 2: The Media on the Internet

Assigned Readings:

"Computer Technology and Right to Privacy." [Chapter Three] In *Computer Technology and Social Issues* by G. David Garson (Harrisburg, PA: Idea Group Publishing, 1997)

Kapor, Mitchell. "Civil Liberties in Cyberspace." *Scientific American* 265 (September 1991): 158-164.

Masson, Douglas J. "Fixation on Fixation: Why Imposing Old Copyright Law on New Technology Will Not Work." *Indiana Law Journal* 71 (Fall 1996): 1049-1066.

Session Nine — *Intellectual Property Rights and Privacy in a Digitalized Society*

Assigned Readings:

"Computer Crime, Information Security, and Information Rights." [Chapter Four] In *Computer Technology and Social Issues* by G. David Garson (Harrisburg, PA: Idea Group Publishing, 1997)

Holderness, M. "Down and Out in the Global Village." *New Scientist* 138 (May 8, 1993): 36-40.

Peace, A. Graham. "Academia, Censorship, and the Internet." *Journal of Information Ethics* 6 (Fall 1997): 35-.

[INTERNET COMMUNITY ASSIGNMENT DUE]

Session Ten — *PART 1: Censorship and Crime on the Internet*
PART 2: Issues of Diversity, Multiculturalism, and Racism in an Information Age

Assigned Readings:

"Social Impacts of Information Systems." [Chapter Five] In *Computer Technology and Social Issues* by G. David Garson (Harrisburg, PA: Idea Group Publishing, 1997)

Walton, Douglas. "What Is Propaganda, and What Exactly is Wrong with It?" *Public Affairs Quarterly* 11 (October 1997): 383-413.

Session Eleven — *Misinformation, Propaganda, and the Social Impact of Information Technology*

Assigned Readings:

Corrado, Anthony and Charles M. Firestone, *Elections in Cyberspace: Toward a New Era in American Politics*. "A Report of The Aspen Institute and The American Bar Association." (Washington, DC: The Aspen Institute, 1997)

"Information Technology and Global Competition." [Chapter Seven] In *Computer Technology and Social Issues* by G. David Garson (Harrisburg, PA: Idea Group Publishing, 1997)

Gasman, Lawrence. "Telecommunications Act of 1996." *Regulation* 19 (1996): 49-55.

"Public Policy for Information Technology." [Chapter Eight] In *Computer Technology and Social Issues* by G. David Garson (Harrisburg, PA: Idea Group Publishing, 1997)

Session Twelve — *Effects of Information Technology on Public Policy, Part I: Government Attempts to Formulate a National Information Policy*

Assigned Readings:

Cate, Fred H. "Cybersex: Regulating Sexually Explicit Expression on the Internet." *Behavioral Sciences and the Law* 14 (Spring 1996): 145-166.

Gidwin, Mike. "Virtual Community Standards." *Reason* 26 (November 1994): 48-50.

Katz, James E. "The Social Side of Information Networking." *Society* 34 (April 1996): 162-.

Session Thirteen — *Effects of Information Technology on Public Policy, Part II: Social, Ethical, and Moral Issues*

Assigned Readings:

Brigham, Martin and Martin J. Corbett. "E-Mail, Power, and the Constitution of Organizational Reality." *New Technology, Work, and Employment* 12 (March 1997): 25-35.

"Computing and Organizational Change." [Chapter Six] In *Computer Technology and Social Issues* by G. David Garson (Harrisburg, PA: Idea Group Publishing, 1997

Cooper, D. N. "The Future of Work in the Digital Diaspora: Economic Restructuring and Education." *Journal of Organization Change Management* 10 (1997): 139-.

Session Fourteen — *Information Technology and Organizations*

Assigned Readings:

Moen, William E. "Realizing the Information Future: The Internet and Beyond." *Information Processing and Management* 32 (January 1996): 120-122.

Robinson, G. W. "Technology Foresight: The Future for IT." *Long Range Planning* 29 (April 1996): 11-23.

Steele, Lowell W., "And the Walls Came Tumbling Down." *Technology in Society* 18 (1996): 261-284.

Session Fifteen — *Capstone Lecture: The Future of American Society in the Information Age*

[FINAL PROJECT PAPERS ARE DUE BY 3:00pm TODAY]